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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,780	03/30/2005	Hideki Ichihashi	05224/HG	2277

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EXAMINER	
GILLESPIE, BENJAMIN	
ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/529,780	ICHIHASHI ET AL.	
	Examiner	Art Unit	
	Benjamin J. Gillespie	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/30/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claims 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 5, specific examples of aromatic polycarboxylic acids are listed, however adipic acid is not an aromatic acid, therefore claimed is rendered indefinite due to conflicting claimed compounds. The language "integrally molded" of claim 11 renders the claim indefinite because there is no definition as to what is meant by an integrally molded product, further explanation is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komiya et al ('905) in view of Kube ('212) and in further view of Greco ('839) and Carlson et al ('110). Komiya et al teaches a hot-melt polyurethane adhesive comprising a polyol mixture containing polycarbonate and polyester diol in amounts overlapping applicants' claimed ranges (Abstract, Col 2 lines 4-6, Col 8 lines 10, 53-58). Furthermore in column 2 lines 18-50, patentee teaches

the polycarbonate to consist of 1,6 hexanediol and the polyester to consist of 1,6 hexanediol as well as adipic or phthalic acid. While the reactants disclosed in Komiya et al are the same as claimed by the applicant, Komiya et al fails to teach further concerning crystallinity and the possible combination of amorphous polyols.

3. Kube also teaches a hot-melt polyurethane adhesive comprising a mixture of polyols including polyester diol. (Abstract). In particular, Kube teaches that a mixture of crystalline and amorphous polyester diol is preferred, wherein the crystalline polyester polyol consists of hexamethylene glycol, chemically synonymous with 1,6 hexanediol, and adipic acid (Col 2 lines 62-64). The term "crystalline" is determined by X-ray diffraction wherein the degree of crystallization is 30% or greater (Col 2 lines 11-18). The amorphous polyester is disclosed to consist of 1,6 hexanediol and phthalic acid (Col 2 lines 65-67, col 3 lines 5, and 9). Kube goes on to teach that the preferred amount of crystalline and amorphous polyester exists in quantities, which overlap applicants' claimed ranges (Col 3 lines 44-46).

4. While Komiya et al does not explicitly teach for the combination of crystalline and amorphous polyester, Greco teaches that when crystalline polyester diol is used in a polyurethane hot-melt adhesive, it is advantageous to also include amorphous polyester diol, which increases initial tack before cross-linking and reduces overall shrinkage of the adhesive after application, which otherwise can prejudice the adhesion (Col 1 lines 9-13, 43-56). Therefore it would have been obvious to one skilled in the art at the time of invention to include in Komiya et al crystalline and amorphous polyester taught by Kube based on the logic the polyol compositions have analogous applications, identical reactants, and the teaching of Greco which discloses that

the combination of crystalline and amorphous polyester is advantageous due to the increased initial tack, and reduced shrinkage of the adhesive after application.

5. Finally, regarding claims 9-14 Carlson et al teaches that hot-melt polyurethane adhesives can be molded, specifically within injection molding machines (Col 1 lines 16-19). Furthermore Carlson teaches that the injection-molded product can be directly applied to electronic circuit boards or thin strands of wire while still in the hot-melt phase (Col 3 lines 40-46). Carlson does not limit the processing and application of the teaching to certain polyurethane adhesives and therefore it would have been obvious to combine this teaching with that of the art presented in the previous paragraphs based on both deal with analogous polyurethane hot-melt adhesives.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie

RABON SERGENT
PRIMARY EXAMINER